FIG. **7** is a layer diagram of an eighth embodiment of a read sensor **100** of the present invention. Read sensor **100** includes a magnetoresistive stack **101**, shield regions **102**A and **102**B, and contacts **104**A and **104**B. Magnetoresistive stack **101** is a giant magnetoresistive (GMR) stack configured to operate in a current-in-plane (CIP) mode wherein a sense current flows substantially parallel to the layers of the stack. Shield region **102**A is positioned adjacent to a side surface of GMR stack **101**, and includes a ferromagnetic layer **106**A, a seed layer **108**A, and a permanent magnet layer **110**A. Ferromagnetic layer **106**A is positioned adjacent to GMR stack **101** and along a bottom surface of shield region **102**A. Seed layer **108**A is positioned between ferromagnetic layer **106**A and permanent magnet layer **110**A. Shield region **102**B is positioned adjacent to a side surface of GMR stack **101** opposite to shield region **102**A, and includes a ferromagnetic layer **106**B, a seed layer **108**B, and a permanent magnet layer **110**B.

Ferromagnetic layer **106**B is positioned adjacent to GMR stack **101** and along a bottom surface of shield region **102**B. Seed layer **108**B is positioned between ferromagnetic layer **106**B and permanent magnet layer **110**B. Contact **104**A is positioned adjacent to permanent magnet layer **110**A, and contact **104**B is positioned adjacent to permanent magnet layer **110**B.

Contacts **104**A and **104**B provide a sense current through GMR stack **101** The GMR signal produced by GMR stack **101** is generated by the sense current flowing parallel to the layers of GMR stack **101**. Ferromagnetic layers **106**A and **106**B are preferably selected from the group consisting of NiFe, CoFe, CoZrNb, CoZrTi and NiFeX, where X is selected from the group consisting of Co, Cr, Rh, Re, Nb, Ta, Ti, V, Hf, W and Ru, and preferably have a thickness in the range of about 15 Å to about 60 Å. Seed layers **108**A and **108**B are preferably selected from the group consisting of Ti, Rh, Ta, Cu, Au and Ru, and preferably have a thickness in the range of about 30 Å to about 50 Å. Permanent magnet layers **110**A and **110**B are preferably selected from the group consisting of CoPt, CoCrPt and SmCo, and preferably have a thickness in the range of about 100 Å to about 300 Å. Ferromagnetic layers **106**A and **106**B shunt flux from an adjacent track to shield regions **102**A and **102**B, respectively, instead of GMR stack **101**. This reduces the side-reading effect of read sensor **100**, and causes an effective decrease in reader width of read sensor **100**. Seed layers **108**A and **108**B decouple the exchange between ferromagnetic layers **106**A and **106**B and permanent magnet layers **110**A and **110**B, respectively.

FIG. **8** is a layer diagram of a ninth embodiment of a read sensor **100**' of the present invention. Read sensor **100**' is similar to read sensor **100** of FIG. **7**. Magnetoresistive stack **101**', however, differs from magnetoresistive stack **101** of FIG. **7** in that magnetoresistive stack **101**' is either a GMR stack or a tunneling magnetoresistive (TMR) stack configured to operate in a current-perpendicular-to-plane (CPP) mode wherein a sense current flows substantially perpendicular to the layers of the stack. Contact **104**A' is positioned adjacent to a top surface of magnetoresistive stack **101**', and contact **104**B' is positioned adjacent to a bottom surface of magnetoresistive stack **101**' opposite to contact **14**A'. In addition, an oxide insulation layer **112**A is positioned between magnetoresistive stack **101**' and shield region **102**A, as well as adjacent to a bottom surface of shield region **102**A. Similarly, an oxide insulation layer **112**D is positioned between magnetoresistive stack **101**' and shield region **102**B, as well as adjacent to a bottom surface of shield region **102**B.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. A read sensor for use in a magnetic read head, the read sensor comprising:

a magnetoresistive stack having a plurality of layers; and

first and second shield regions positioned adjacent to the magnetoresistive stack, each of the shield regions including a first soft magnetic layer abutted to the magnetoresistive stack for shunting flux from an adjacent track to the shield region instead of the magnetoresistive stack.

2. The read sensor of claim **1** wherein each of the shield regions further includes:

a first permanent magnet layer abutted to the magnetoresistive stack; and

a first seed layer abutted to the magnetoresistive stack and positioned between the first soft magnetic layer and the first permanent magnet layer.

3. The read sensor of claim **2** wherein the first permanent magnet layer comprises:

a ferromagnetic layer; and

an antiferromagnetic layer.

4. The read sensor of claim **2** wherein each of the shield regions further includes:

a second soft magnetic layer abutted to the magnetoresistive stack; and

a second seed layer abutted to the magnetoresistive stack and positioned between the first permanent magnet layer and the second soft magnetic layer.

5. The read sensor of claim **4** wherein each of the shield regions further includes:

a second permanent magnet layer abutted to the magnetoresistive stack, and

a third seed layer abutted to the magnetoresistive stack and positioned between the second soft magnetic layer and the second permanent magnet layer.

6. The read sensor of claim **1** wherein the first soft magnetic layer is selected from the group consisting of NiFe, CoFe, CoZrNb, CoZrTi and NiFeX, where X is selected from the group consisting of Co, Cr, Rh, Re, Nb, Ta, Ti, V, Hf, W and Ru.

7. The read sensor of claim **1** wherein the first soft magnetic layer has a thickness in a range of about 15 Å to about 60 Å.

8. The read sensor of claim **2** wherein the first permanent magnet layer is selected from the group consisting of CoPt, CoCrPt and SmCo.

9. The read sensor of claim **2** wherein the first permanent magnet layer has a thickness in a range of about 100 Å to about 300 Å.

10. The read sensor of claim **2** wherein the first seed layer is selected from the group consisting of Ti, Rh, Ta, Cu, Au and Ru.

11. The read sensor of claim **2** wherein the first seed layer has a thickness in a range of about 30 Å to about 50 Å.

12. The read sensor of claim **1** wherein the magnetoresistive stack is configured to operate in a current-in-plane (CIP) mode wherein a sense current flows substantially parallel to a longitudinal plane of the layers of the stack.

13. The read sensor of claim **1** wherein the magnetoresistive stack is configured to operate in a current-